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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/069,160	02/21/2002	Yong-Gyun Jung	1455-020220	1890

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09/29/2003

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EXAMINER

SERGEANT, RABON A

ART UNIT

PAPER NUMBER

1711

DATE MAILED: 09/29/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/069,160

Applicant(s)

JUNG ET AL.

Examiner

Rabon Sergent

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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1. The disclosure is objected to because of the following informalities: Within lines 17-19 of page 11, the reference to NOC% appears to be incorrect.

Appropriate correction is required.

2. Claim 12 is rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for the coating of steel plates utilizing the aqueous lubricant urethane resin disclosed within pages 6-17 of the specification, does not reasonably provide enablement for the coating of steel plates utilizing virtually any aqueous lubricant urethane resin. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to use the invention commensurate in scope with these claims. Applicants have failed to provide adequate guidance for the coating of steel plates utilizing urethane compositions other than those disclosed. Applicants have provided insufficient teaching to permit the coating of steel plates according to the claimed process with other than the disclosed aqueous lubricant urethane resin composition, without having to resort to undue experimentation.

3. Claims 1-11 and 13-20 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Applicants have failed to specify the type of molecular weight for the polyester polyol, polyethylene, and polyurethane. It is unclear if the molecular weights are weight average or number average. Such information is necessary for properly identifying the components.

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4. Claims 1-11 and 13-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Firstly, within line 6 of claim 1, it is unclear if the content of diisocyanate is 0.30-50 parts or 30-50 parts, due to the presence of a dot in front of "30".

Secondly, within claims 1 and 2, in view of the language within step (2), it is unclear if the chain extended product of (c) contains reactive groups.

Thirdly, within claims 1 and 2, it is unclear if applicants' claimed steps of "adding" equate to mixing; if not, then it is unclear what the components are added to.

Fourthly, within step (2) of claims 1 and 2, it is unclear what the language, "isocyan", refers to. Is the term intended to encompass species other than isocyanate groups. Furthermore, the use of the term, "type" (both occurrences) so extends the scope of the terms that they are rendered indefinite. It is unclear what compounds are encompassed by the language.

Fifthly, with respect to claim 2, applicants have specified the "resin solid content" as the basis for the quantities of several components; however, it is unclear if the resin solid content is a constant (i.e., the final resin solid content) or if the resin solid content varies as the components are added. For example, it is noted that the wax component would modify the resin solid content; however, it is unclear if the previously claimed resin solid content for the curing agents corresponds to the solid resin content once the wax component has been added.

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Sixthly, within step (3) of claim 2, applicants have failed to specify if the ratio is based on weight or moles. Furthermore, the language, "said fluorine resin-modified polyethylene wax", lacks antecedent basis.

Seventhly, within claim 6, "said wax mixture" lacks antecedent basis. Furthermore, it is unclear how the specified amount corresponds to the differently specified quantity within claim 2.

Eighthly, within claims 8 and 17, the use of the term, "based", renders the claims indefinite, because it is unclear to what extent the polyol is based on or derived from polybutylene adipate.

Lastly, within claims 11 and 20, the language denoted by "such as" renders the claims indefinite, because it is unclear to what extent the specific compounds modify the characteristics of the broad compounds. For example, since the exemplified glycols contain simple carbon chains, are hetero atoms, such as ether oxygen atoms, excluded from the glycols?

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 1, 3-5, and 7-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Blum et al. ('707).

Patentees disclose aqueous polyurethane dispersions, suitable for use as metal coatings, comprising a curing agent, such as a blocked isocyanate component, and a hydroxyl containing polyurethane derived from the reaction of a polyester polyol, having a molecular weight of 500 to 4,000; a polyisocyanate; a dihydroxy carboxylic acid, to provide hydrophilic groups; a chain extender; a neutralizing agent, such as an amine; and a solvent component to aid in the dispersing step. See abstract and columns 2-8. Patentees further disclose quantities of the reactants that meet applicants' claims.

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7. Claims 2, 6, and 12-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mohri et al. ('575) in view of Blum et al. ('707).

Mohri et al. disclose the coating of a zinc plated steel plate having a chromate coating with a lubricating resin for improving formability and corrosion resistance, wherein the lubricating resin composition comprises a hydroxyl or carboxyl group containing resin component, such as a urethane; a silica component; a silane coupling agent; and a lubricant. Patentees further disclose that it is advantageous to blend a high temperature melting lubricant, such as a fluororesin, with a low temperature melting polyethylene wax lubricant. See abstract and columns 7-11.

8. Though Mohri et al. disclose that urethane resins may be employed as the resin component, patentees fail to recite the use of polyurethane aqueous dispersions as the resin component. However, the use of aqueous polyurethane dispersions as binding components for metal coatings was known at the time of invention. This position is supported by the teachings of Blum et al. See paragraph 6 for a discussion of Blum et al. Therefore, in view of the fact that organic solvent containing compositions were known to be detrimental to the environment at the time of invention and since the primary reference discloses that hydroxyl or carboxyl group containing urethane resins are useful components for producing the lubricant composition, the position is taken that it would have been obvious to incorporate the hydroxyl or carboxyl group containing aqueous polyurethane dispersion of Blum et al. into the lubricant composition of

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Mohri et al., so as to obtain a more environmentally friendly metal coating composition and process for coating zinc plated steel having a chromate coating.

Any inquiry concerning this communication should be directed to R. Sergent at telephone number (703) 308-2982.


RABON SERGENT
PRIMARY EXAMINER

R. Sergent

September 23, 2003